Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

June 15, 2007

Winston Hickox
Chair, Cal EPA Market Advisory Committee

Lawrence H. Goulder
Vice Chair, Cal EPA Market Advisory Committee

Re: Comments on MAC Draft Report for Public Review

Dear Chairman Hickox, Professor Goulder, and Committee members,

Thank you to all of the members of the Market Advisory Committee (MAC) for offering your expertise and your labor on behalf of the State of California's efforts to tackle the climate crisis.

The Union of Concerned Scientists has sought to engage constructively on the topic of cap-and-trade program design. In our April 17 letter to the MAC, we first took the position that a well-designed cap-and-trade program could play a useful role as part an overall package of AB 32 implementation policies.

We find ourselves in agreement with many recommendation contained in the MAC's draft report for public review (hereafter, the "draft report"). It is a document that advances the state of the art in cap-and-trade design and provides new clarity on the question of allowance distribution, auction vs. free allocation. ***Nonetheless, we have serious concerns about the recommendation that there be no geographic or quantitative limits on the offsets.***

We offer these arguments for limiting offsets quantitatively and geographically (i.e. to California):

1. Ensuring declining emissions in California's high emitting sectors. With offsets possible anywhere in the world, even a small set of initial offset types could imply a very large supply, and could allow emissions in California to continue to rise.
2. Capturing co-benefits of investment (jobs and ancillary environmental benefits) for California.
3. Spurring induced innovation–creating the global warming solutions that will grow California exports and provide the breakthrough technologies we will need for future reductions.
4. Meeting California's emission reduction goal is achievable with in-state action at low cost or possibly with a net benefit.
5. Monitoring and verifying offset projects outside of California would add to the challenge of ensuring reductions from offset projects are real and permanent

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1707 H Street, NW · Suite 600 · Washington, DC 20006-3962 · TEL: 202.223.6133 · FAX: 202.223.6162
2397 Shattuck Avenue · Suite 203 · Berkeley, CA 94704-1567 · TEL: 510.843.1872 · FAX: 510.843.3785

Before further discussing the offsets issue, we would like to highlight some key areas where we are in agreement with the draft report and we also discuss concerns we have about the recommendation for a "first seller" approach to the point of regulation in the electricity sector.

Key areas of agreement

- ***Advantages of auctioning***
- ***The importance of the issue of setting the level of the cap within the program***
- ***Rejection of price caps as a key step to environmental integrity***
- ***Including the embodied emissions of transportation fuels***

Advantages of auctioning. We agree with MAC that the principles of fairness, cost-effectiveness, and simplicity argue for auctioning all allowances and hope that the State of California arrives expeditiously at the 100% auction destination that the draft report recommends.

The draft report offers a comprehensive, insightful and yet parsimonious treatment of the issue of distribution of the allowances that will be at the heart of a cap-and-trade program. With every state in RGGI (the Regional Greenhouse Gas Initiative) that has announced its intentions having embraced a 100% auction and the EU ETS (Emission Trading System) signaling an increased role for auctioning, momentum for auctioning as the primary method of allocation is clear and the draft report clearly reflects the Committee's awareness of these exciting developments. Indeed, some of the MAC members have been central players in these recent developments. Beyond simply reflecting lessons learned, the draft report brings together in an accessible and elegant way the intellectual foundation for auctioning of allowances under cap-and-trade.

Environmental integrity. We agree with the draft report's observation that the fact that cap-and-trade provides a specific, enforceable quantitative limit on emission is a crucial advantage, and we also agree with the prominence given to the issue of the setting of the level of the cap. We urge the committee to go further on this topic and to advocate for the setting of a tight cap that will provide virtual certainty that California will meet the 2020 target. The discussion should recognize that uncertainty with respect to future reductions made in the parts of the economy left outside of the cap-and-trade program can be expected to induce some uncertainty in the overall endeavor of meeting the economy-wide cap. Setting the level of the cap will inevitably involve grappling with this uncertainty. We urge the MAC to recognize this and to recommend the setting of a tight cap with the explicit goal of producing an extremely high probability that the State will meet the 2020 target.

Include transport fuels. We strongly support the recommendation of the MAC to include the greenhouse gas emissions of transportation fuels in a cap and trade regime. As the draft report notes, a cap that includes comprehensive coverage of all major emitters will send accurate price signals across all sectors of the economy. We also agree with the report's observation that transportation fuel use is relatively inelastic to price in the short term , but including transportation fuels in the cap is important for three key reasons. First, it will provide the right long term incentives. The proper price signal could contribute to smart growth and more broadly will help guide appropriate investment decisions. Second, establishing the most comprehensive program from the start, when the reductions are more modest, will keep costs relatively low in these initial years. And lastly, as the cap becomes tighter, including the

transportation sector is critical to meeting our aggressive longer-term emissions reductions targets. Though the short term effects may not be large, over time, in the long term the emission reductions due to the price signal could well have larger and larger effects.

Given that transportation is the largest single source of greenhouse gas emissions in California, the State should use all the policy instruments at its disposal to achieve reductions in the sector. Combining an upstream cap and trade program with regulations and incentives can lower overall costs to consumers and put the state on the path to achieving the dramatic reductions necessary by 2050. To achieve significant emissions reductions from transportation, a cap and trade program should be accompanied with policies such as low carbon fuel standards, light duty vehicle efficiency standards, heavy duty efficiency improvements and anti-idling, alternative fuel promotion, and smart growth.

The "First-Seller" Approach Should Not be Recommended, Absent Further Study

The draft report recommends a "first-seller" approach for covering electricity sector emissions. While a first-seller approach may have some advantages over a load-based approach, the report's description and justification of the first-seller approach leave several important questions unanswered. In particular, the presumption by some MAC members that a first-seller approach will provide no weaker an incentive for load-serving entities (LSEs) to invest in low-carbon emissions reductions than a load-based approach appears to ignore the reality that LSEs are more likely to invest in energy efficiency and other long-term reductions if they are the point of regulation. By shifting the compliance responsibility to other entities, a first-seller approach may dampen the incentive for LSE investments in low-carbon measures that are critically needed to meet the state's greenhouse gas reduction targets. Furthermore, the first-seller approach implies that the state has the authority to regulate interstate and wholesale transactions that may fall under FERC jurisdiction. We urge the MAC to address in greater detail the mechanics and regulatory feasibility of the first-seller approach. Because the first-seller approach introduces a new concept that is still under development, both its practicality and functionality should be carefully examined before the MAC recommends its use for controlling electricity sector emissions.

We urge the MAC to reconsider its recommendation of no quantitative or geographic limits on offsets

We respectfully ask you to reconsider the recommendation that there should be no geographic or quantitative limits on offsets. Our position is that offsets should be limited to California and to a modest fraction of the overall emission reduction effort that the cap-and-trade program seeks to achieve.

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Again, our arguments for limiting offsets in California's cap-and-trade include:

1. Ensuring declining emissions in California
2. Capturing the co-benefits of investment
3. Spurring induced innovation
4. The goal is achievable in state with a net economic benefit or at low cost
5. Monitoring and verifying offset projects outside of California would add to the challenge of ensuring reductions are real and permanent

Ensuring declining emissions in California's high emitting sectors

A key problem with unlimited offsets is that this makes it possible that very little–or even none–of the reductions that the cap-and-trade program produces will be in California. We agree that starting with a defined set of offset project types, those that are the best candidates based on ability to analyze, report, monitor and verify emission reductions, would contribute to the objective of ensuring that offset projects are real and permanent. However, if the entire globe is the scope of the effort, this is not a guarantee that the supply of offsets will be limited. In fact, the lack of any limits on the use of offsets as a compliance option could well lead to a flood of offsets, causing the allowance price to crash.

If reductions due to the State's cap-and-trade program take place entirely or mostly out of state, thus allowing California's own emissions to rise, can the State really claim to be leading the way in tackling the climate crisis? We would argue no. It is important that a cap-and-trade program puts the State on a path of declining emissions, and ensures that new capital investment goes to cleaner technologies.

Capturing co-benefits of investment for the people of California

AB 32 instructs CARB to maximize, to the extent feasible, additional environmental and economic benefits for California. In this context, it is problematic that carbon markets only value carbon–what of the economic and environmental benefits of investment in global warming solutions? In particular, there are substantial public health benefits associated with more rapid market penetration of clean energy and vehicle technologies, which can help address environmental justice concerns. If no mechanism exists to value these co-benefits, they could well be lost to the people of California. Though reduction in greenhouse gas emissions is the ultimate goal of AB 32, we respectfully assert that it would be short sighted to not take a more comprehensive perspective.

While the direct benefits of reducing greenhouse gas emissions will be very valuable, the many environmental co-benefits are also important. The reductions in conventional air pollutants that global warming solutions offer will be of particular importance to Californians. 90 percent of the state's populace lives in areas that fail to meet the state's air quality standards for ground-level ozone or airborne particulate matter. The San Joaquin Valley and the Los Angeles area in particular are exposed to some of the most heavily polluted air in the country and as a result suffer experience some of the worst health effects of air pollution; conditions that are expected to worsen as temperature continue to rise. Retaining co- benefits

in these areas is a matter of environmental justice, as approximately half of the San Joaquin Valley and two-thirds of Los Angeles populations are people of color, and people of color in these areas experience disproportionately high rates of asthma and other air-pollution-exacerbated illness.

UCS does recognize that rapid energy and other infrastructure development in developing countries create opportunities for low cost mitigation options from a global perspective. And UCS has been open to a limited role for international offsets in other contexts. At the same time, the objective of maximizing co-benefits is set forth in AB 32, and we will say a bit more about why we believe that the 2020 target is achievable in-state after discussing induced innovation.

Not weakening the incentives that will spur technological innovation

Offsets are mostly about the diffusion of current technologies whereas management of the climate crisis will require the development of breakthrough technologies. The draft report takes this position: "The better approach to achieving long-term technology-transformation goals in certain sectors is to employ direct technology promoting policies (such as tax incentives for increased research and development)," p. 61.

We agree that sectoral policies are crucial for driving innovation in key sectors, especially in transportation and energy, and that supply push policies (investment in research and development) are also important. However, we would argue that demand pull should be valued as well in the effort to engender innovation. The price signal of the price of an allowance in the carbon market will provide this demand pull; allowing unlimited offsets from anywhere in the world would no doubt weaken this price signal. A lower allowance price is not necessarily better. As we will argue in the next section, the price of an allowance does not directly map to the social cost. This critical point should not get lost in discussion. What's more, the price of greenhouse gas emissions that the cap-and-trade program creates should be adequate to ensure clean investment in California, again to put the State on the path of declining emissions.

Fundamental economic transformation is the goal, and we would argue that all aspects of policy must give attention to the inducement of technological innovation. Induced innovation will have two benefits, it will lower the future cost of global warming solutions and it will enable California business to capture a larger share of the already rapidly growing clean tech global market.

The goal is achievable in state at low cost or possibly with a net economic benefit

Meeting the 2020 goal with in-state action could yield a net economic benefit even before environmental benefits are taken into consideration, and at worst the economic cost is likely to be low. The MAC argues that unlimited offsets are important for lowering cost. We have explained our view that offsets should have a limited role to play in lowering costs in the short term, and that there are short-term and long-term tradeoffs in cost effectiveness. From the somewhat narrower bounds of effects on the people of California, out of state offsets might not really be low cost in comparison to in state emission reductions when one considers the co-benefits. The price of emission reductions (the allowance price or offset price) should not be interpreted directly as

the economic cost, as this would ignore not just environmental benefits but the ancillary economic effects.

Indirect economic effects are how macroeconomic studies such as CARB's or that of UC Berkeley Professor David Roland-Holst come to the conclusion that meeting AB 32's emission reduction target will likely benefit the state economy.[1] The results of these studies do not purport to claim that there will be no costs to anyone from climate action, but rather than the benefits outweigh these costs (even before innovation and environmental benefits are considered). Such results, net benefits to global warming solutions, are not unique to the research conducted in California. A recent, sophisticated effort to study the effects of the State of Maryland joining the RGGI cap-and-trade program also found net economic benefits to doing so; this was a large effort involving top economists from Resources for the Future and the University of Maryland, among others.[2] We are aware of other work questioning the notion that meeting the 2020 cap will be low cost or could produce net economic benefits, but we remain convinced of this view.[3]

Monitoring and verifying offset projects outside of California would add to the challenge of ensuring reductions from offset projects are real and permanent

If the scope for offsets is global, an additional set of procedures and institutions would be necessary to ensure that offsets from outside the state, which CARB will not be able to directly enforce or verify, do in fact yield real and permanent emission reductions.

Some operational recommendations on offsets

The draft report says, "Depending on the size and scope of the [cap-and-trade] program, and the scope of potential offsets, the number of staff needed to implement an effective offset monitoring program could conceivably be larger than the staff needed to run the cap-and-trade program itself." At the final MAC meeting Vice Chair Goulder observed that cost-effectiveness should take administrative costs into account, and we agree. Administrative costs can be expected to increase with the inclusion of projects less amenable to analysis, monitoring, reporting, and verification. We recommend that the cost of developing the institutions and staff that will be necessary to run any offset program should be borne by those entities that wish to take advantage of this alternative compliance mechanism.

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[1] CARB's modeling results are reported in the Climate Action Team Final Report (March 2006) and suggest an increase in state income of $4 billion and the creation of 83,000 new jobs. Roland-Holst projects, under different policy implementation scenarios, an increase in state income of $60-$74 billion and the creation of 17,000 to 89,000 new jobs.

[2] "Economic and Energy Impacts from Maryland's Potential Participation in the Greenhouse Gas Initiative," A Study Commissioned by the Maryland Department of the Environment. Center for Integrative Environmental Research University of Maryland, College Park, in collaboration with Resources for the Future, The John Hopkins University, and Towson University. 2007 (January).

[3] Two recent entries in the literature deserve to be mentioned:

1. "Program on Technological Innovation: Economic Analysis of California Climate Initiatives: An Integrated Approach. Volume 1: Summary for Policymakers," Electric Power Research Institute, Project Manager Larry J. Williams. 2007 (June).
2. "Too Good to Be True?" Robert Stavins, Judson Jaffe, and Todd Schatski, AEI-Brookings Joint Center for Regulatory Studies, Related Publication 07-01. 2007 (January).

We further argue that careful attention should be given to the evaluation and certification of potential third party verifiers. Though third party verification is an aid to providing assurances that offset projects yield real emission reductions, a requirement for third party verification does not in and of itself does guarantee reductions equal to the claimed amount.[4]

Criteria for offsets

We propose the following criteria for offsets (as we first stated in our April 17 letter to the MAC):

- A small fraction of reductions
  Offsets must be limited to a modest fraction of required reductions (note that this is a percentage of *required reductions*, not a percentage of *total emissions*)
- Limited to California
  Offsets should be limited to projects within California.
- Rigorous and publicly accessible accounting and monitoring
  Offsets raise complex analytical questions that will require carefully designed analytical methods and institutions to ensure that claimed environmental benefits meet AB 32's requirement that emission reductions be real, surplus, verifiable, enforceable, and permanent.
- Prioritize offsets that deliver substantial co-benefits
  In identifying acceptable types of offset projects, those with substantial co-benefits, especially improved air quality, should be prioritized.
- Social and environmental screening
  There should be no net environmental or social risks from offset activities. In other words, offsets that reduce carbon emissions but result in other harms to the environment or to society (such as increased emissions of other harmful pollutants) would be disallowed.

Unlimited offsets could cause problems should California wish to link with other programs

The Governor has expressed interest in linking to other cap-and-trade programs, so that allowances from other regimes are accepted in California's markets, and vice versa. Unlimited offsets could interfere with linkage to other programs. Both RGGI and the EU ETS have quantitative limits on offsets. Limits on offsets have been seen as a measure of environmental stringency, and comparable stringency is typically viewed as a top tier concern for the viability of linkage.

The draft report addresses in some detail whether or not California would be interested in linking to other programs. And the potential problem for linkage is mentioned in the draft reports recommendation against inclusion of price caps on allowances. However, the implication of unlimited offsets for linkage prospects is not explored in the report.

[4] For example, the following research paper found that emission reduction benefits had been over estimated even after third party verification by a reputable firm. "Estimating the Greenhouse Gas Benefits of Forestry Projects: A Costa Rican Case Study," Christopher B. Busch, Jayant A. Sathaye, and Arturo Sanchez-Azofeifa. Lawrence Berkeley National Laboratory, LBNL-42289. 2000 (July). Paper available on request: cbusch@ucsusa.org.

The lack of any limits on the use of offsets as a compliance option could lead to a flood of offsets, severely depressing allowance prices. If capped entities can choose equally between allowances and offsets, the price of an allowance is effectively capped at the offset price. In the absence of linkage, if the allowance price is higher than the offset price, capped entities have an incentive to purchase offsets. Consider this from the perspective of, for example, the EU. If the EU links to California, European demand could raise the price of allowances in California somewhat above the price for offsets seeing as there would be a limited supply of allowances in California. In this case, the incentive would be for California entities covered under the cap to buy all, or mostly, offsets. In turn, assuming the tighter limits on offsets in Europe keep their allowance prices higher, Europeans would purchase large quantities of allowances from California. The economic implications of such a scenario deserve further assessment.

Concluding thoughts

We urge the MAC to recommend citizen suit provisions to increase confidence that the 2020 target will be met. Citizen suits have played in important role in enforcing provisions of the Clean Air Act and other environmental regulations.

We agree with the MAC's recommendation for tightening conventional air quality laws as part of the effort to ensure AB 32's anti-backsliding provisions. We have been exploring this policy area in an effort to offer specific recommendations. Though we believe we have made progress in identifying a possible set of policy and enforcement improvements, we do not feel that these policy proposals are ready at this time for public dissemination. This is a complicated area of law and policy, involving multiple levels of governmental authority, and many types of pollutants, technologies and sectors of the economy. We continue to explore this issue, and hope to make concrete contributions as AB 32 implementation continues.

We echo the environmental coalition sign on letter's position that it would be beneficial for the MAC to consult with the Environmental Justice Advisory Committee in an effort to develop more specific recommendations on avoiding inadvertent creation of criteria or hazardous pollution hot spots.

Once more, thank you for your efforts and contribution to the policy dialogue in California and beyond.

Sincerely,

Chris Busch, PhD
California Climate Program, Union of Concerned Scientists

CC: Linda Adams, Secretary for Environmental Protection
Dan Skopec, Undersecretary, Cal EPA
Eileen Tutt, Deputy Secretary, Cal EPA
Dr. Robert Sawyer, Chairman, CARB
Catherine Witherspoon, Executive Officer, CARB
Chuck Shulock, Climate Change Program Manager, CARB

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